In the Claims:

1.–39. (Cancelled)

40. (New) Stereoscopic display apparatus comprising:

first and second projectors having inputs connectable to a source of digital data representing the color components of color sets of two stereoscopic images, each of said projectors having an output outputting an optical beam having a set of color components in which at least one color component of each color set is of an orthogonal polarization state with respect to the other color components of the respective set;

a polarization preserving screen;

a first optical polarization rectifier using exclusively optical retarders to manipulate said polarization states in said first projector in such manner that the polarization states of the different color components in said first projector are converted to a single first polarization state;

a second optical polarization rectifier using exclusively optical retarders to manipulate said polarization states in said second projector in such manner that the polarization states of the different color components in said second projector are converted to a second single polarization state;

said first and second single polarization states being mutually orthogonal;

polarizing clean–up filters arranged for increasing the polarization ratio of the output beams;

and stacking means for stacking said two color sets onto said polarization preserving screen such as to enable stereoscopic viewing of the two color sets via orthogonally polarized filters.

41. (New) The apparatus according to Claim 40, wherein the color components are red, green and blue, and the polarization of the green component is orthogonal to the polarizations of the red and the blue components.

42. (New) The apparatus according to Claim 41, where the said color components are linearly polarized.

43. (New) The apparatus according to Claim 42, where each of said optical polarization rectifiers contains a stack of optical retarders that rotates the polarizations of the red and the blue components while leaving the polarization state of the green component intact

44. (New) The apparatus according to Claim 43, wherein said first polarization rectifier further contains an optical retarder to convert the polarization state outputted by its stack of optical retarders to make it identical to said first polarization state and said second polarization rectifier further contains an optical retarder to convert the polarization state outputted by its stack of optical retarders to make it identical to said second polarization state.

45. (New) The apparatus according to Claim 42, wherein each of said optical polarization rectifiers contains a stack of optical retarders that rotates the polarization of the green component while leaving the polarization states of the red and blue components intact

46. (New) The apparatus according to Claim 45, wherein said first polarization rectifier further contains an optical retarder to convert the polarization state outputted by its stack of optical retarders to make it identical to said first polarization state and said second polarization rectifier further contains an optical retarder to convert

the polarization state outputted by its stack of optical retarders to make it identical to said second polarization state.

47. (New) The apparatus according to Claim 41, where the said color components are circularly polarized.

48. (New) The apparatus according to Claim 47, wherein each of said polarization rectifiers contains a ¼ wave retarder to convert the polarization states of said color components to linear polarization.

49. (New) The apparatus according to Claim 48, wherein each of said optical polarization rectifiers contains a stack of optical retarders that rotates the polarizations of the red and the blue components while leaving the polarization state of the green component intact

50. (New) The apparatus according to Claim 49, wherein said first polarization rectifier further contains an optical retarder to convert the polarization state outputted by its stack of optical retarders to make it identical to said second polarization state and said second polarization rectifier further contains an optical retarder to convert the polarization state outputted by its stack of optical retarders to make it identical to said second polarization state.

51. (New) The apparatus according to Claim 48, wherein each of said optical polarization rectifiers contains a stack of optical retarders that rotates the polarization of the green component while leaving the polarization states of the red and blue components intact

52. (New) The apparatus according to Claim 51, wherein said first polarization rectifier further contains an optical retarder to convert the polarization state

outputted by its stack of optical retarders to make it identical to said second polarization state and said second polarization rectifier further contains an optical retarder to convert the polarization state outputted by its stack of optical retarders to make it identical to said second polarization state.

53. (New) The apparatus according to Claim 44, wherein said first and second polarization states are linear.

54. (New) The apparatus according to Claim 44, wherein said first and second polarization states are circular.

55. (New) The apparatus according to Claim 46, wherein said first and second polarization states are linear.

56. (New) The apparatus according to Claim 46, wherein said first and second polarization states are circular.

57. (New) The apparatus according to Claim 50, wherein said first and second polarization states are linear.

58. (New) The apparatus according to Claim 50, wherein said first and second polarization states are circular.

59. (New) The apparatus according to Claim 52, wherein said first and second polarization states are linear.

60. (New) The apparatus according to Claim 52, wherein said first and second polarization states are circular.